# Automated Tutor, Online Programming Practical lessons for new Programmers

## Background

Understanding both the theory and practical concepts for Programming, Data structures and Algorithms course units are essential for computer science, software engineering and Electrical Engineering students. However, Currently at Makerere University, there are students known to have exceptional performance in such course units but without knowing how to write optimal code. This arises from giving students too many course works which forces them to only focus on passing instead of grasping the concept.

At times if practical course work with little time to attend to is given to students, they tend to go for plagiarism. Makerere University having Large numbers of students doing these course units, it becomes very hard for a lecturer to detect the act of plagiarism.

## Problem statement

Monitoring each student’s performance in Makerere university’s classrooms is a tiresome task for lecturers. When students are given a programming course work, they expect fair continuous feedbacks from their lecturers in the least time possible. However, at times students are given complex tasks to do as course works. For a lecturer to give reasonable feedback to every student’s course works, he would be required to run the student’s code into IDE’s to correctly analyses their running times and generate a feedback. Besides analyzing code efficiency of students, the lecturer is also subjected to a task of checking for plagiarism among the submitted students’ code. The most prominent solution done to improve on the lecturer’s productivity is grouping students. However, this also has an associated problem. The problem to this solution is that only few students contribute to course works while the rest are just waiting to add their names. Thus, this is also not a permanent solution since only group effort is monitored and not individual.

This project’s intention Is to solve the above problem by creating an online system that will keep track on student’s individual progress in the programming field and monitoring the student’s general performance in the least time possible. With this implemented, Student’s submitted course work will be attended to quickly, plagiarism acts will be detected teachers’ productivity will be improved and above all, student’s passion in programming will be boosted.

## Main objective

## Specific objectives

## Scope of project

## Significance of project

## Methodology